

REMARKS

Initially, Applicants would like to thank the Examiner for indicating acceptance of the Drawings. Applicants would also like to thank the Examiner for indicating the allowability of the subject matter of claims 16, 18 and 20.

Claims 6 and 7 stand objected-to for grammatical informalities. Claims 16, 18 and 20 were objected-to as being dependent upon a rejected based claim, but were indicated to be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. Claims 1 and 11-13 stand rejected under 35 U.S.C. §103(a) over SUGIMOTO et al. (U.S. Patent App. Pub. No. 2003/0189830). Claims 2-10 and 26 stand rejected under 35 U.S.C. §103(a) over SUGIMOTO in view of HARRAH et al. (U.S. Patent No. 6,498,355). Claims 14, 15, 17 and 19 stand rejected under 35 U.S.C. §103(a) over SUGIMOTO in view of SCHNEIDER (U.S. Patent No. 5,172,301). Claims 21-24 and 27 stand rejected under 35 U.S.C. §103(a) over SUGIMOTO in view of HAITZ (U.S. Patent No. 5,323,084). Claims 25 and 28 stand rejected 35 U.S.C. §103(a) over SUGIMOTO in view of HAITZ and further in view of TSUJI et al. (JP 4048740).

Upon entry of the present amendment, claims 6 and 7 will have been amended to address the noted informalities. Accordingly, Applicants respectfully request reconsideration and withdrawal of the objection to claims 6 and 7.

Applicants traverse the rejection of claims 1 and 11-13 under 35 U.S.C. §103(a) over SUGIMOTO. SUGIMOTO and the current application were commonly assigned at the time the invention was made, but have different inventive entities. Accordingly, subject matter which was prior art only under 35 U.S.C. § 102(e), (f) or (g) is disqualified

as prior art against the present application insofar as the subject matter of SUGIMOTO and the current application “were, at the time the invention was made, owned by the same person or subject to an obligation of assignment to the same person,” in accordance with the Manual of Patent Examining Procedure Section 706.02(I)(1). Accordingly, Applicants respectfully request reconsideration and withdrawal of the rejection of claims 1 and 11-13 under 35 U.S.C. §103(a) over SUGIMOTO. In particular, subject matter of independent claim 1, from which dependent claims 2-28 depend, is disclosed in Japanese Patent Application 2003-298007 (published as JP 2005-012155) which was filed on August 21, 2003. It is noted that the date of the above-noted priority document is before the publication date of SUGIMOTO, which is October 9, 2003. Applicants are in the process of preparing a translation of the above-noted priority document and will submit the translation of the above-noted priority document to the U.S. Patent and Trademark Office when completed.

Applicants traverse the rejection of claims 2-10 and 26 under 35 U.S.C. §103(a) over SUGIMOTO in view of HARRAH. In this regard, Applicants respectfully submit that SUGIMOTO is disqualified as prior art for reasons substantially similar to those discussed above with respect to the rejection of claim 1. The Examiner asserts HARRAH as teaching the features of claim 2 acknowledged to be absent in SUGIMOTO. In this regard, the asserted portions of HARRAH in Figure 2 and at column 2, line 49 through column 5, line 25 teach a layer 8 of conventional conductive electrical traces being disposed on a dielectric layer 10 overlying a metal substrate 6 and a plurality of vias 12 passing through trace layer 8 and dielectric layer 10. In this regard, HARRAH teaches

metallic plate 6 and dielectric layer 10, as well as thermally bonding submount 30 to a portion of metallic plate 6.

However, HARRAH does not teach or suggest thermally bonding by removing the insulator layer and the electrical connection pattern layer. Moreover, HARRAH does not teach that the first plate of the mount base of said submount is bonded thermally to a portion of the metallic plate of said first plate exposed at a side opposed to said submount by removing the insulator layer and the pattern layer, as recited in claim 2. Furthermore, HARRAH does not teach or suggest that electrically conducting lines of said submount are connected electrically to the electrical connection pattern layer of said first plate, insofar as HARRAH does not teach or suggest electrically conducting lines of said submount, as recited in claim 2. In this regard, if HARRAH were to teach electrically conducting lines formed on a submount, the vias 12 taught by HARRAH would be rendered superfluous.

Accordingly, Applicants respectfully submit that claims 2 is allowable over SUGIMOTO in view of HARRAH at least for the reasons set forth above, and independently of the disqualification of SUGIMOTO as prior art, as noted above.

Applicants respectfully submit that claims 8 and 9 are allowable at least for depending, directly or indirectly, from shown to be allowable claim 2, as well as for additional reasons related to their own recitations. Further, Applicants respectfully submit that claim 10 is allowable for depending from shown to be allowable independent claim 1, as well as for reasons related to its own recitations. Accordingly, reconsideration and withdrawal of the rejection under 35 U.S.C. §103(a) of claims 2-10 and 26 is respectfully requested.

Applicants traverse the rejection of claims 14, 15, 17 and 19 under 35 U.S.C. §103(a) over SUGIMOTO in view of SCHNEIDER. In this regard, Applicants respectfully submit that SUGIMOTO is disqualified as prior art for reasons substantially similar to those discussed above with respect to the rejection of claim 1. The Examiner asserts SCHNEIDER as teaching the features of claim 14 acknowledged to be absent in SUGIMOTO. The Examiner asserts SCHNEIDER as teaching that at least one groove is formed between the bonding material and the first plane of the mount base to bond thermally to the exposed portion of the metallic plate, as recited in claim 14. However, the asserted portions of SCHNEIDER in figure 3 indicate that a die 302 is mounted with an adhesive 304 to one face 306a of a printed wiring board (PWB) 306 along with holes 312 in the PWB 306. In contrast, claim 14 is directed to grooves formed in the mount base such that solder fills in the grooves and provides a strengthened contact between a mount based and a metallic plate. As can be seen in Figure 3 of SCHNEIDER, nubs 314b are not formed in die 302, and adhesive 304 does not make contact with nubs 314b.

Accordingly, Applicants respectfully submit that claim 14 is allowable over SUGIMOTO in view of SCHNEIDER at least for the reasons set forth above, and independently of the disqualification of SUGIMOTO as prior art, as noted above.

Applicants respectfully submit that claims 15 and 17 are allowable at least for depending from allowable claim 14, as well as for additional reasons related to their own recitations. Further, Applicants respectfully submit that claim 19 is allowable for depending from claim 1, as well as for reasons related to its own recitations. Reconsideration and withdrawal of the rejection under 35 U.S.C. §103(a) of claims 14, 15, 17 and 19 is respectfully requested.

Applicants traverse the rejection of claims 21-24 and 27 under 35 U.S.C. §103(a) over SUGIMOTO in view of HAITZ. In this regard, Applicants respectfully submit that SUGIMOTO is disqualified as prior art for reasons substantially similar to those discussed above with respect to the rejection of claim 1. The Examiner asserts HAITZ as teaching the features of claim 22 acknowledged to be absent in SUGIMOTO. With regard to claim 22, the Examiner asserts Figure 3B and column 5, lines 17-31 of HAITZ as teaching that a second plate for heat transfer comprises another metallic plate, an insulator layer formed thereon, and an electrical connection pattern layer formed on the insulator layer, and the electrical connection pattern layer is connected electrically to the electrically conducting lines of said submount. The asserted portions of HAITZ merely indicate that electrical connections are made between the integrated circuit (IC) chips and LEDs by combinations of wire bonds and metal traces or lines deposited on the glass substrate. However, HAITZ does not teach or suggest electrically conducting lines of said submount, let alone that an electrical connection pattern layer is connected electrically to the electrically conducting lines of said submount, as recited in claim 22.

Accordingly, Applicants respectfully submit that claims 22 is allowable over the combination of SUGIMOTO in view of HAITZ at least for the reasons set forth above, and independently of the disqualification of SUGIMOTO as prior art, as noted above.

Further, Applicants respectfully submit that claims 21, 23, 24 and 27 are allowable for depending from an allowable independent claim 1, as well as for reasons related to their own recitations. Reconsideration and withdrawal of the rejection under 35 U.S.C. §103(a) of claims 21-24 and 27 is respectfully requested.

Applicants traverse the rejection of claims 25 and 28 under 35 U.S.C. §103(a) over SUGIMOTO in view of HAITZ and further in view of TSUJI. In this regard, Applicants respectfully submit that SUGIMOTO is disqualified as prior art for reasons substantially similar to those discussed above with respect to the rejection of claim 1. In addition, TSUJI does not cure the deficiencies of HAITZ.

Accordingly, Applicants respectfully submit that claims 25 and 28 are allowable over the combination of SUGIMOTO, HAITZ and TSUJ at least for the reasons set forth above, and independently of the disqualification of SUGIMOTO as prior art, as noted above. Reconsideration and withdrawal of the rejection under 35 U.S.C. §103(a) of claims 25 and 28 is respectfully requested.

Any amendments to the claims which have been made in this amendment, and which have not been specifically noted to overcome a rejection based upon the prior art, should be considered to have been made for a purpose unrelated to patentability, and no estoppel should be deemed to attached thereto.

At least in view of the herein contained amendment and remarks, Applicants respectfully request reconsideration and withdrawal of each of the outstanding objections and rejections, together with an indication of the allowability of all pending claims, in due course. Such action is respectfully requested and is believed to be appropriate and proper.

Should an extension of time be necessary to maintain the pendency of this application, including any extensions of time required to place the application in condition for allowance by an Examiner's Amendment, the Commissioner is hereby authorized to charge any additional fee to Deposit Account No. 19-0089.

Should the Examiner have any questions concerning this Response or the present application, the Examiner is respectfully requested to contact the undersigned at the telephone number listed below.

Respectfully Submitted,
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